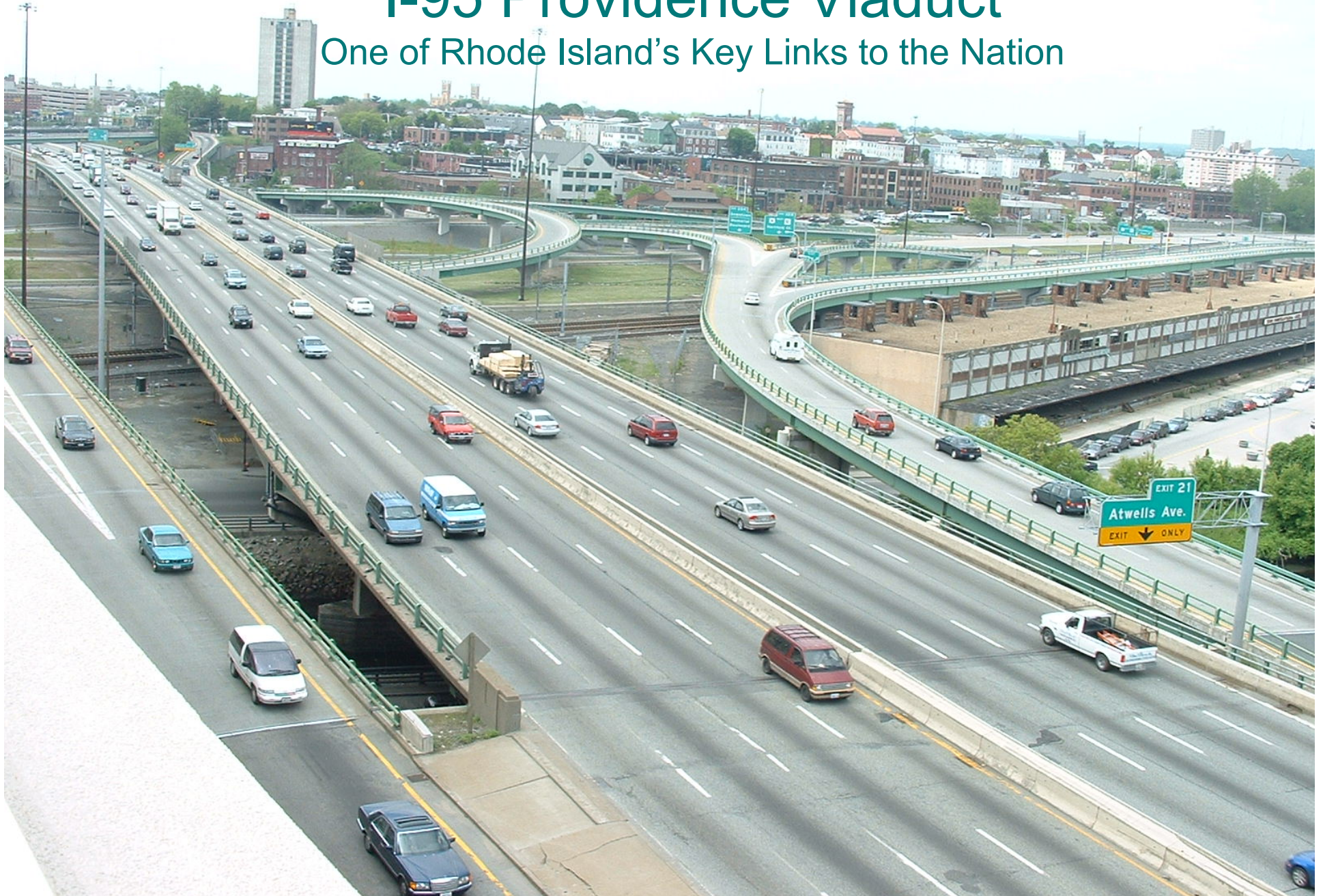


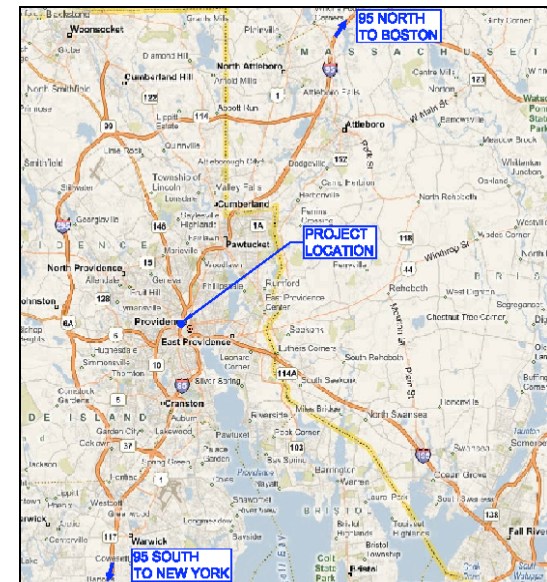
I-95 Providence Viaduct

One of Rhode Island's Key Links to the Nation



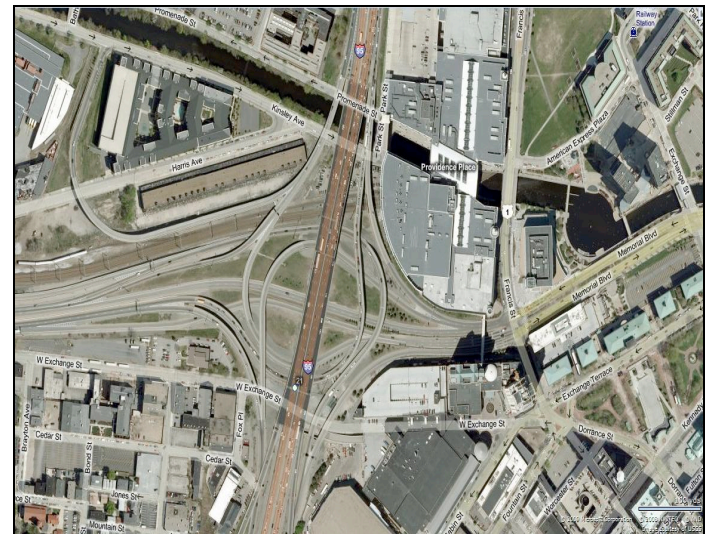
Regional and Local Significance

- **Critical link between MA and CT, Boston and New York – carries I-95**
- **Bridge forms interchange with State Routes 6 & 10 to southern RI and to eastern CT**
- **Bridge located ¼ mile south of Route 146 connecting to central MA.**
- **Located ½ mile north of I-195 connecting to southeastern MA**
- **Provides Access to**
 - **State Offices (RIDOT, RIDOA, Health Department)**
 - **Providence Place Mall**
 - **Providence Convention Center**
 - **Dunkin Donuts Center**
 - **Veterans Memorial Auditorium**
 - **Downtown Providence/Kennedy Plaza/ Water Place Park**



Providence Viaduct Bridge

- **General Facts:**
 - **Year Built: 1964**
 - **Carries Interstate 95 in downtown Providence**
 - **Crosses Over:**
 - **AMTRAK Northeast Corridor**
 - **Rt. 6 & 10**
 - **Woonasquatucket River**
 - **Local Streets**
 - **Length: 1,300 feet**
 - **Traffic Volume:**
 - **160,000 vehicles per day**
(80,000 each direction)



Existing Structural Design

- **Deck:** Reinforced concrete supported by steel “I” girders.
- **Substructure:** Post tensioned hammerhead concrete piers
- **Foundation:** Steel “H” piles driven underground



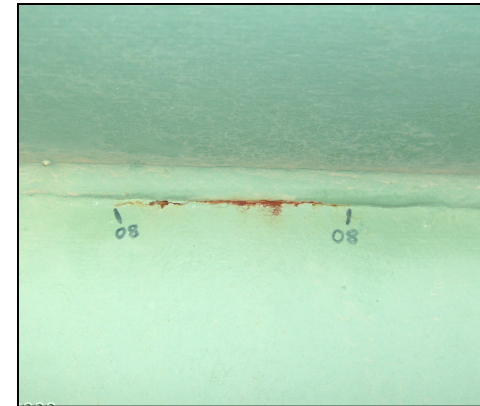
Traffic Configuration

- Each bound carries three lanes plus one exit lane
- Presently little to no shoulders exist
- On/Off ramps connected to all four corners of bridge



Bridge Structural Condition

- **Deck**
 - Badly deteriorated, shielded and shored in many locations
 - Requires replacement
- **Steel Girders**
 - Numerous cracks in secondary members
 - Some cracks in main member welds
 - Does not meet State and Federal standards for Inventory load carrying capacity
- **Post-Tensioned Piers**
 - Concrete Design Strength: 5,000 psi
As-tested strength: 3,500 psi
 - P/T Anchorages badly rusting





Structural Analysis/Interim Repairs

- **Bridge is safe for operating conditions**
 - Bi-Monthly Inspections being conducted as safeguard
 - Concrete Piers structurally sound due to safety factors
 - Steel cracks due to poor weld quality, not over stress
- **Interim Repairs**
 - Steel Cracks in main member welds presently being repaired
 - Bad deck section recently shored



Project Status

- **Inspection/Evaluation concludes that replacement required**
- **Final design & permit process scheduled to start imminently**
- **Cost Estimate**
 - **\$177 Million (projected in 2011)**



Project Schedule

- **Design Schedules**
 - **Traditional Design: Approximately 18 months**
 - **Design-Build: Simultaneous with Construction**
- **Construction Duration**
 - **Traditional Design: Approximately 5 to 6 years**
 - **Design-Build: Approximately one year's savings**
- **Funding Obligation Timelines**
 - **Traditional Design: Approximately 18 months**
 - **Design-Build: 1 to 2 months from today**

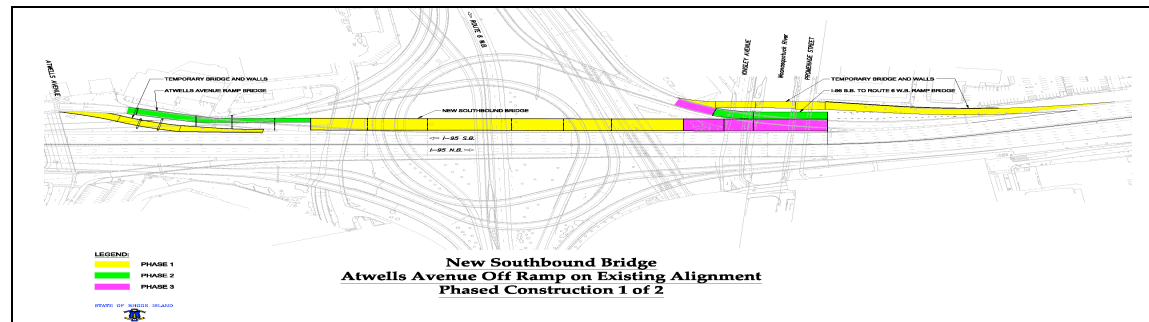
Bridge Closure Impacts

- **Would close Interstate 95**
- **Interruption of traffic operations in southeastern New England including traffic between New York and Boston**
- **Unacceptable traffic congestion on local streets within Providence**
 - **Traffic back-ups and delays already occur every day on the bridge**
- **Traffic congestion on I-295 (level of service F)**



Project Challenges

- **Replacing existing bridge while maintaining traffic volume of 160,000 vehicles per day**
 - Handled by constructing new southbound structure west of existing southbound lanes and sequencing the moving of traffic with construction of new bridge and demolition of existing bridge



- **Obtaining funding for a \$177 million project**
 - Currently only \$24 Million is programmed for the project
 - Annual RIDOT non-GARVEE/non-earmark highway construction program has been only \$40 to \$80 million per year

Final Configuration of I-95

